

61835-1.ST25.txt
SEQUENCE LISTING

<110> Vanaja, Donkena Krishna
Young, Charles Y.F.

<120> Methods And Compositions For Diagnosis, Staging and Prognosis of
Prostate Cancer

<130> 61835-2

<140> US
<141> 2004-07-14

<150> US 60/487,553
<151> 2003-07-14

<160> 52

<170> PatentIn version 3.2

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Pro Tyr Asn Ile Arg Arg Ser Ser Thr Ser Gly Asp Thr Glu Glu
10 15 20

gag gag gag gtg gtg cca ttc tcc tca gat gaa cag aaa cgg agg 151
Glu Glu Glu Val Val Pro Phe Ser Ser Asp Glu Gln Lys Arg Arg
25 30 35

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Ser Glu Ala Ala Ser Gly Val Leu Arg Arg Thr Ala Pro Arg Glu His
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Ser Tyr Val Leu Ser Ala Ala Lys Lys Ser Thr Gly Ser Pro Thr Gln
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Glu Thr Gln Ala Pro Phe Ile Ala Lys Arg Val Glu Val Val Glu Glu
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 Val Val Ile Phe Ala Thr Phe Val Thr Leu Cys Asn Ala Ser Cys Tyr 101
 10 15 20

ttc ata cct aat gag gga gtt cca gga gat tca acc agg aaa tgc atg 149
 Phe Ile Pro Asn Glu Gly Val Pro Gly Asp Ser Thr Arg Lys Cys Met
 25 30 35

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 Asp Leu Lys Gly Asn Lys His Pro Ile Asn Ser Glu Trp Gln Thr Asp
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<400> 33

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Ala Pro Gly Ser Asn Gly Gln Asp Lys Asp Met Asp Pro Thr Lys Ile
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Cys Thr Gly Lys Gly Ala Val Thr Leu Arg Ala Ser Ser Ser Tyr Arg
35 40 45

61835-1.ST25.txt

Glu Thr Pro Ser Ser Ser Pro Ala Ser Pro Gln Glu Thr Arg Gln His
50 55 60

Glu Ser Lys Pro Gly Leu Glu Pro Glu Pro Ser Ser Ala Asp Glu Trp
65 70 75 80

Arg Leu Ser Ser Ser Ala Asp Ala Asn Gly Asn Ala Gln Pro Ser Ser
85 90 95

Leu Ala Ala Lys Gly Tyr Arg Ser Val His Pro Asn Leu Pro Ser Asp
100 105 110

Lys Ser Gln Asp Ala Thr Ser Ser Ala Ala Gln Pro Glu Val Ile
115 120 125

Val Val Pro Leu Tyr Leu Val Asn Thr Asp Arg Gly Gln Glu Gly Thr
130 135 140

Ala Arg Pro Pro Thr Pro Leu Gly Pro Leu Gly Cys Val Pro Thr Ile
145 150 155 160

Pro Ala Thr Ala Ser Ala Ala Ser Pro Leu Thr Phe Pro Thr Leu Asp
165 170 175

Asp Phe Ile Pro Pro His Leu Gln Arg Trp Pro His His Ser Gln Pro
180 185 190

Ala Arg Ala Ser Gly Ser Phe Ala Pro Ile Ser Gln Thr Pro Pro Ser
195 200 205

Phe Ser Pro Pro Pro Pro Leu Val Pro Pro Ala Pro Glu Asp Leu Arg
210 215 220

Arg Val Ser Glu Pro Asp Leu Thr Gly Ala Val Ser Ser Thr Asp Ser
225 230 235 240

Ser Pro Leu Leu Asn Glu Val Ser Ser Ser Leu Ile Gly Thr Asp Ser
245 250 255

Gln Ala Phe Pro Ser Val Ser Lys Pro Ser Ser Ala Tyr Pro Ser Thr
260 265 270

Thr Ile Val Asn Pro Thr Ile Val Leu Leu Gln His Asn Arg Glu Gln
275 280 285

Gln Lys Arg Leu Ser Ser Leu Ser Asp Pro Val Ser Glu Arg Arg Val
290 295 300

61835-1.ST25.txt

Gly Glu Gln Asp Ser Ala Pro Thr Gln Glu Lys Pro Thr Ser Pro Gly
305 310 315 320

Lys Ala Ile Glu Lys Arg Ala Lys Asp Asp Ser Arg Arg Val Val Lys
325 330 335

Ser Thr Gln Asp Leu Ser Asp Val Ser Met Asp Glu Val Gly Ile Pro
340 345 350

Leu Arg Asn Thr Glu Arg Ser Lys Asp Trp Tyr Lys Thr Met Phe Lys
355 360 365

Gln Ile His Lys Leu Asn Arg Asp Asp Asp Ser Asp Leu Tyr Ser Pro
370 375 380

Arg Tyr Ser Phe Ser Glu Asp Thr Lys Ser Pro Leu Ser Val Pro Arg
385 390 395 400

Ser Lys Ser Glu Met Ser Tyr Ile Asp Gly Glu Lys Val Val Lys Arg
405 410 415

Ser Ala Thr Leu Pro Leu Pro Ala Arg Ser Ser Ser Leu Lys Ser Ser
420 425 430

Ser Glu Arg Asn Asp Trp Glu Pro Pro Asp Lys Lys Val Asp Thr Arg
435 440 445

Lys Tyr Arg Ala Glu Pro Lys Ser Ile Tyr Glu Tyr Gln Pro Gly Lys
450 455 460

Ser Ser Val Leu Thr Asn Glu Lys Met Ser Ser Ala Ile Ser Pro Thr
465 470 475 480

Pro Glu Ile Ser Ser Glu Thr Pro Gly Tyr Ile Tyr Ser Ser Asn Phe
485 490 495

His Ala Val Lys Arg Glu Ser Asp Gly Ala Pro Gly Asp Leu Thr Ser
500 505 510

Leu Glu Asn Glu Arg Gln Ile Tyr Lys Ser Val Leu Glu Gly Gly Asp
515 520 525

Ile Pro Leu Gln Gly Leu Ser Gly Leu Lys Arg Pro Ser Ser Ser Ala
530 535 540

Ser Thr Lys Asp Ser Glu Ser Pro Arg His Phe Ile Pro Ala Asp Tyr
545 550 555 560

61835-1.ST25.txt

Leu Glu Ser Thr Glu Glu Phe Ile Arg Arg Arg His Asp Asp Lys Glu
565 570 575

Met Arg Pro Ala Arg Ala Lys Phe Asp Phe Lys Ala Gln Thr Leu Lys
580 585 590

Glu Leu Pro Leu Gln Lys Gly Asp Ile Val Tyr Ile Tyr Lys Gln Ile
595 600 605

Asp Gln Asn Trp Tyr Glu Gly Glu His His Gly Arg Val Gly Ile Phe
610 615 620

Pro Arg Thr Tyr Ile Glu Leu Leu Pro Pro Ala Glu Lys Ala Gln Pro
625 630 635 640

Lys Lys Leu Thr Pro Val Gln Val Leu Glu Tyr Gly Glu Ala Ile Ala
645 650 655

Lys Phe Asn Phe Asn Gly Asp Thr Gln Val Glu Met Ser Phe Arg Lys
660 665 670

Gly Glu Arg Ile Thr Leu Leu Arg Gln Val Asp Glu Asn Trp Tyr Glu
675 680 685

Gly Arg Ile Pro Gly Thr Ser Arg Gln Gly Ile Phe Pro Ile Thr Tyr
690 695 700

Val Asp Val Ile Lys Arg Pro Leu Val Lys Asn Pro Val Asp Tyr Met
705 710 715 720

Asp Leu Pro Phe Ser Ser Ser Pro Ser Arg Ser Ala Thr Ala Ser Pro
725 730 735

Gln Gln Pro Gln Ala Gln Gln Arg Arg Val Thr Pro Asp Arg Ser Gln
740 745 750

Thr Ser Gln Asp Leu Phe Ser Tyr Gln Ala Leu Tyr Ser Tyr Ile Pro
755 760 765

Gln Asn Asp Asp Glu Leu Glu Leu Arg Asp Gly Asp Ile Val Asp Val
770 775 780

Met Glu Lys Cys Asp Asp Gly Trp Phe Val Gly Thr Ser Arg Arg Thr
785 790 795 800

Lys Gln Phe Gly Thr Phe Pro Gly Asn Tyr Val Lys Pro Leu Tyr Leu
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tagaaggta aggtgaacca gaactggagg ggcatttggg atcccttcctt cttcagaaag 180
tgcgatcgca tcaagatgca tgtggtttc agtagaactg gccatgttt cttgggagcg 240
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tgtccttcctc gaccttgtca cttcctggca ccagctgctc cctccccagc tgcaagtcgc 480
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Met Lys Arg Lys Glu
1 5
aga att gcc agg cgc ctg gaa ggg att gaa aat gac act cag ccc atc 163
Arg Ile Ala Arg Arg Leu Glu Gly Ile Glu Asn Asp Thr Gln Pro Ile
10 15 20
ctc ttg cag agc tgc aca gga ttg gtg act cac cgc ctg ctg gag gaa 211
Leu Leu Gln Ser Cys Thr Gly Leu Val Thr His Arg Leu Leu Glu Glu
25 30 35
gac acc cct cga tac atg aga gcc agc gac cct gcc agc ccc cac atc 259
Asp Thr Pro Arg Tyr Met Arg Ala Ser Asp Pro Ala Ser Pro His Ile
40 45 50
ggc cga tca aat gaa gag gag gaa act tct gat tct tct cta gaa aag 307
Gly Arg Ser Asn Glu Glu Glu Thr Ser Asp Ser Ser Leu Glu Lys
55 60 65
caa act cga tcc aaa tac tgc aca gaa acc tcc ggt gtc cac ggt gac 355
Gln Thr Arg Ser Lys Tyr Cys Thr Glu Thr Ser Gly Val His Gly Asp
70 75 80 85

61835-1.ST25.txt

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gcc gaa aga att gca agg tac aaa gca gaa aga agg cga cag ctg gca Ala Glu Arg Ile Ala Arg Tyr Lys Ala Glu Arg Arg Arg Gln Leu Ala 105 110 115	451
gag aag tat ggg ctg act ctg gat ccc gag gcc gac tcc gag tat tta Glu Lys Tyr Gly Leu Thr Leu Asp Pro Glu Ala Asp Ser Glu Tyr Leu 120 125 130	499
tcc cgc tat acc aag tcc agg aag gag cct gat gct gtc gag aag cgg Ser Arg Tyr Thr Lys Ser Arg Lys Glu Pro Asp Ala Val Glu Lys Arg 135 140 145	547
gga gga aaa agt gac aaa cag gaa gag tca agc aga gat gck agt tct Gly Gly Lys Ser Asp Lys Gln Glu Ser Ser Arg Asp Ala Ser Ser 150 155 160 165	595
ctg tac ccc ggg acc gag acg atg ggg ctc agg acc tgt gcc ggt gaa Leu Tyr Pro Gly Thr Glu Thr Met Gly Leu Arg Thr Cys Ala Gly Glu 170 175 180	643
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gtg ctg ctg aac ata gaa aac caa aga cga ggt caa gag ctg agt gcc Val Leu Leu Asn Ile Glu Asn Gln Arg Arg Gly Gln Glu Leu Ser Ala 200 205 210	739
acc cgg cag gcc cat gac ctg tcc cca gca gcc gag agt tcc tcg acc Thr Arg Gln Ala His Asp Leu Ser Pro Ala Ala Glu Ser Ser Ser Thr 215 220 225	787
ttc tct ttc tct ggg cga gac tcc tcc ttc act gaa gtg cca cgg tcc Phe Ser Phe Ser Gly Arg Asp Ser Ser Phe Thr Glu Val Pro Arg Ser 230 235 240 245	835
ccc aag cac gcc cac agc tcc tcc ctg cag cag gca gcc tcc ccg agc Pro Lys His Ala His Ser Ser Ser Leu Gln Gln Ala Ala Ser Arg Ser 250 255 260	883
ccc tcc ttt ggt gac cca cag cta tcc cct gag gcc cga ccc agg tgc Pro Ser Phe Gly Asp Pro Gln Leu Ser Pro Glu Ala Arg Pro Arg Cys 265 270 275	931
act tca cat tca gaa acg cca act gtc gat gat gaa gaa aag gtg gat Thr Ser His Ser Glu Thr Pro Thr Val Asp Asp Glu Glu Lys Val Asp 280 285 290	979
gaa cga gcc aag ctg agc gtc gcc gcc aag agg ttg ctt ttc agg gag Glu Arg Ala Lys Leu Ser Val Ala Ala Lys Arg Leu Leu Phe Arg Glu 295 300 305	1027
atg gaa aaa tct ttt gat gaa caa aat gtt cca aag cga cgc tca aga Met Glu Lys Ser Phe Asp Glu Gln Asn Val Pro Lys Arg Arg Ser Arg 310 315 320 325	1075
aac aca gct gtg gag cag agg cta cgc cgt ctg cag gac agg tcc ctc Asn Thr Ala Val Glu Gln Arg Leu Arg Arg Leu Gln Asp Arg Ser Leu 330 335 340	1123

61835-1.ST25.txt

acc cag ccc atc acc act gaa gag gtg gtc atc gca gcc aca ttg cag	1171
Thr Gln Pro Ile Thr Thr Glu Glu Val Val Ile Ala Ala Thr Leu Gln	
345 350 355	
 gcc tct gct cac caa aag gcc tta gcc aag gac cag aca aat gag ggc	1219
Ala Ser Ala His Gln Lys Ala Leu Ala Lys Asp Gln Thr Asn Glu Gly	
360 365 370	
 aaa gag ctt gct gag caa gga gaa cct gat tcc tcc act cta agc ttg	1267
Lys Glu Leu Ala Glu Gln Gly Glu Pro Asp Ser Ser Thr Leu Ser Leu	
375 380 385	
 gcc gaa aag ttg gcc ttg ttt aac aaa ttg tcc cag cca gtc tca aaa	1315
Ala Glu Lys Leu Ala Leu Phe Asn Lys Leu Ser Gln Pro Val Ser Lys	
390 395 400 405	
 gcg att tct acc cgg aac aga ata gac acg aga cag agg aga atg aac	1363
Ala Ile Ser Thr Arg Asn Arg Ile Asp Thr Arg Gln Arg Arg Met Asn	
410 415 420	
 gct cgc tat caa act cag cca gtc aca ctg gga gag gtg gag cag gtg	1411
Ala Arg Tyr Gln Thr Gln Pro Val Thr Leu Gly Glu Val Glu Gln Val	
425 430 435	
 cag agt gga aag ctc att cct ttc tca cct gcc gtg aac aca tca gtg	1459
Gln Ser Gly Lys Leu Ile Pro Phe Ser Pro Ala Val Asn Thr Ser Val	
440 445 450	
 tct acc gta gca tcc acg gtt gct cca atg tat gcc gga gat ctt cgc	1507
Ser Thr Val Ala Ser Thr Val Ala Pro Met Tyr Ala Gly Asp Leu Arg	
455 460 465	
 aca aag cca cct ctt gac cac aat gca agt gcc act gac tat aag ttt	1555
Thr Lys Pro Pro Leu Asp His Asn Ala Ser Ala Thr Asp Tyr Lys Phe	
470 475 480 485	
 tct tct tca ata gaa aat tcg gac tct cca gtt aga agc att ctg aaa	1603
Ser Ser Ser Ile Glu Asn Ser Asp Ser Pro Val Arg Ser Ile Leu Lys	
490 495 500	
 tcg caa gct tgg cag cct ttg gta gag ggt agc gag aac aag gga atg	1651
Ser Gln Ala Trp Gln Pro Leu Val Glu Gly Ser Glu Asn Lys Gly Met	
505 510 515	
 ttg aga gaa tat gga gag aca gaa agc aag aga gct ttg aca ggt cga	1699
Leu Arg Glu Tyr Gly Glu Thr Glu Ser Lys Arg Ala Leu Thr Gly Arg	
520 525 530 530	
 gac agt ggg atg gag aag tat ggg tcc ttt gag gaa gca gaa gca tcc	1747
Asp Ser Gly Met Glu Lys Tyr Gly Ser Phe Glu Glu Ala Glu Ala Ser	
535 540 545	
 tac ccc atc ctg aac cga gcc agg gaa gga gac agc cat aag gaa tct	1795
Tyr Pro Ile Leu Asn Arg Ala Arg Glu Gly Asp Ser His Lys Glu Ser	
550 555 560 565	
 aaa tat gct gtt ccc aga aga gga agc ctg gaa cgg gcg aac cct ccc	1843
Lys Tyr Ala Val Pro Arg Arg Gly Ser Leu Glu Arg Ala Asn Pro Pro	
570 575 580	
 atc acc cac ctc ggg gat gaa ccg aag gaa ttt tcc atg gct aaa atg	1891
Ile Thr His Leu Gly Asp Glu Pro Lys Glu Phe Ser Met Ala Lys Met	
585 590 595	

61835-1.ST25.txt

aat gca caa gga aac ttg gac ttg agg gac agg ctg ccc ttt gaa gag Asn Ala Gln Gly Asn Leu Asp Leu Arg Asp Arg Leu Pro Phe Glu Glu 600 605 610	1939
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gca gag ttc ggg gag ccc act tcc gag cag acg ggg aca gct gct ggg Ala Glu Phe Gly Glu Pro Thr Ser Glu Gln Thr Gly Thr Ala Ala Gly 630 635 640 645	2035
aaa act att gct caa acc aca gcc ccc gtg tcc tgg aag ccc cag gat Lys Thr Ile Ala Gln Thr Ala Pro Val Ser Trp Lys Pro Gln Asp 650 655 660	2083
tct tcg gaa cag cca cag gag aag ctc tgc aag aat cca tgt gcg atg Ser Ser Glu Gln Pro Gln Glu Lys Leu Cys Lys Asn Pro Cys Ala Met 665 670 675	2131
ttt gct gct gga gag atc aaa acg ccg aca ggg gag ggc ctt ctt gac Phe Ala Ala Gly Glu Ile Lys Thr Pro Thr Gly Glu Gly Leu Leu Asp 680 685 690	2179
tca ccc agc aaa acc atg tct att aaa gaa aga ttg gca ctg ttg aag Ser Pro Ser Lys Thr Met Ser Ile Lys Glu Arg Leu Ala Leu Leu Lys 695 700 705	2227
aaa agc ggg gag gaa gat tgg aga aac aga ctc agc agg agg cag gag Lys Ser Gly Glu Asp Trp Arg Asn Arg Leu Ser Arg Arg Gln Glu 710 715 720 725	2275
ggc ggc aag gcg ccg gcc agc ctg cac acc cag gaa gca ggg cg Gly Gly Lys Ala Pro Ala Ser Ser Leu His Thr Gln Glu Ala Gly Arg 730 735 740	2323
tcc ctc atc aag aag cgg gtc aca gaa agt cga gag agc caa atg acg Ser Leu Ile Lys Arg Val Thr Glu Ser Arg Glu Ser Gln Met Thr 745 750 755	2371
att gag gag agg aag cag ctc atc act gtg aga gag gag gcc tgg aag Ile Glu Glu Arg Lys Gln Leu Ile Thr Val Arg Glu Glu Ala Trp Lys 760 765 770	2419
acg aga ggc aga gga gcg gcc aac gac tcg acc cag ttc act gtg gct Thr Arg Gly Arg Gly Ala Ala Asn Asp Ser Thr Gln Phe Thr Val Ala 775 780 785	2467
ggc agg atg gtg aag aaa ggt ttg gcg tca cct act gcc ata acc cca Gly Arg Met Val Lys Lys Gly Leu Ala Ser Pro Thr Ala Ile Thr Pro 790 795 800 805	2515
gta gcc tca gcc att tgc ggt aaa aca aga ggc acc aca ccc gtt tcc Val Ala Ser Ala Ile Cys Gly Lys Thr Arg Gly Thr Thr Pro Val Ser 810 815 820	2563
aaa ccc ctg gaa gat atc gaa gcc aga cca gat atg cag tta gaa tcg Lys Pro Leu Glu Asp Ile Glu Ala Arg Pro Asp Met Gln Leu Glu Ser 825 830 835	2611
gac ctg aag ttg gac agg ctg gaa acc ttt cta aga agg ctg aat aac Asp Leu Lys Leu Asp Arg Leu Glu Thr Phe Leu Arg Arg Leu Asn Asn 840 845 850	2659

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tac cgc agc gtg gat tat aat atg cca aga agt cct gtg gag atg gat Tyr Arg Ser Val Asp Tyr Asn Met Pro Arg Ser Pro Val Glu Met Asp 890 895 900	2803
gag gac ttc gat gtc att ttc gat cct tat gca ccc aaa ttg acg tct Glu Asp Phe Asp Val Ile Phe Asp Pro Tyr Ala Pro Lys Leu Thr Ser 905 910 915	2851
tcc gtg gcc gag cac aag cgg gca gtt agg ccc aag cgc cgg gtt cag Ser Val Ala Glu His Lys Arg Ala Val Arg Pro Lys Arg Arg Val Gln 920 925 930	2899
gcc tcc aaa aac ccc ctg aaa atg ctg gcg gca aga gaa gat ctc ctt Ala Ser Lys Asn Pro Leu Lys Met Leu Ala Ala Arg Glu Asp Leu Leu 935 940 945	2947
cag gaa tac act gag cag aga tta aac gtt gcc ttc atg gag tca aag Gln Glu Tyr Thr Glu Gln Arg Leu Asn Val Ala Phe Met Glu Ser Lys 950 955 960 965	2995
cgg atg aaa gta gaa aag atg tct tcc aac tcc aac ttc tca gaa gtc Arg Met Lys Val Glu Lys Met Ser Ser Asn Ser Asn Phe Ser Glu Val 970 975 980	3043
acc ctg gcg ggt tta gcc agt aaa gaa aac ttc agc aac gtc agc ctg Thr Leu Ala Gly Leu Ala Ser Lys Glu Asn Phe Ser Asn Val Ser Leu 985 990 995	3091
cgg agc gtc aac ctg acg gaa cag aac tct aac aac agc gcc gtc Arg Ser Val Asn Leu Thr Glu Gln Asn Ser Asn Asn Ser Ala Val 1000 1005 1010	3136
ccc tac aag agg ctg atg ctg ttg cag att aaa gga aga aga cat Pro Tyr Lys Arg Leu Met Leu Leu Gln Ile Lys Gly Arg Arg His 1015 1020 1025	3181
gtg cag acc agg ctg gtg gaa cct cga gct tcg gcg ctc aac agt Val Gln Thr Arg Leu Val Glu Pro Arg Ala Ser Ala Leu Asn Ser 1030 1035 1040	3226
ggg gac tgc ttc ctc ctg ctc tct ccc cac tgc tgc ttc ctg tgg Gly Asp Cys Phe Leu Leu Leu Ser Pro His Cys Cys Phe Leu Trp 1045 1050 1055	3271
gta gga gag ttt gca aac gtc ata gaa aag gcg aag gcc tca gaa Val Gly Glu Phe Ala Asn Val Ile Glu Lys Ala Lys Ala Ser Glu 1060 1065 1070	3316
ctt gca act tta att cag aca aag agg gaa ctt ggt tgt aga gct Leu Ala Thr Leu Ile Gln Thr Lys Arg Glu Leu Gly Cys Arg Ala 1075 1080 1085	3361
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1105							1110						1115			
caa	tct	gct	gga	gac	cca	aaa	gaa	gat	gaa	ctc	tat	gaa	gca	gcc		3496
Gln	Ser	Ala	Gly	Asp	Pro	Lys	Glu	Asp	Glu	Leu	Tyr	Glu	Ala	Ala		
1120							1125					1130				
ata	ata	gaa	act	aac	tgc	att	tac	cgt	ctc	atg	gat	gac	aaa	ctt		3541
Ile	Ile	Glu	Thr	Asn	Cys	Ile	Tyr	Arg	Leu	Met	Asp	Asp	Lys	Leu		
1135							1140					1145				
gtt	cct	gat	gac	gac	tac	tgg	ggg	aaa	att	ccg	aag	tgc	tcc	ctt		3586
Val	Pro	Asp	Asp	Asp	Tyr	Trp	Gly	Lys	Ile	Pro	Lys	Cys	Ser	Leu		
1150							1155					1160				
ctg	caa	ccc	aaa	gag	gta	ctg	gtg	ttt	gat	ttt	ggt	agt	gaa	gtt		3631
Leu	Gln	Pro	Lys	Glu	Val	Leu	Val	Phe	Asp	Phe	Gly	Ser	Glu	Val		
1165							1170					1175				
tac	gta	tgg	cat	ggg	aaa	gaa	gtc	aca	tta	gca	caa	cga	aaa	ata		3676
Tyr	Val	Trp	His	Gly	Lys	Glu	Val	Thr	Leu	Ala	Gln	Arg	Lys	Ile		
1180							1185					1190				
gca	ttt	cag	ctg	gca	aag	cac	tta	tgg	aat	gga	acc	ttt	gac	tat		3721
Ala	Phe	Gln	Leu	Ala	Lys	His	Leu	Trp	Asn	Gly	Thr	Phe	Asp	Tyr		
1195							1200					1205				
gag	aac	tgt	gac	atc	aat	ccc	ctg	gat	cct	gga	gaa	tgc	aat	ccg		3766
Glu	Asn	Cys	Asp	Ile	Asn	Pro	Leu	Asp	Pro	Gly	Gl	Cys	Asn	Pro		
1210							1215					1220				
ctt	atc	ccc	aga	aaa	gga	cag	ggg	cg	ccc	gac	tgg	g	ata	ttt		3811
Leu	Ile	Pro	Arg	Lys	Gly	Gln	Gly	Arg	Pro	Asp	Trp	Ala	Ile	Phe		
1225							1230					1235				
ggg	aga	ctt	act	gaa	cac	aat	gag	acg	att	ttg	tcc	aaa	gag	aag		3856
Gly	Arg	Leu	Thr	Glu	His	Asn	Glu	Thr	Ile	Leu	Phe	Lys	Glu	Lys		
1240							1245					1250				
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Phe	Leu	Asp	Trp	Thr	Glu	Leu	Lys	Arg	Ser	Asn	Glu	Lys	Asn	Pro		
1255							1260					1265				
ggg	gaa	ctt	gcc	cag	cac	aag	gaa	gac	ccc	agg	act	gat	gtc	aag		3946
Gly	Glu	Leu	Ala	Gln	His	Lys	Glu	Asp	Pro	Arg	Thr	Asp	Val	Lys		
1270							1275					1280				
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Ala	Tyr	Asp	Val	Thr	Arg	Met	Val	Ser	Met	Pro	Gln	Thr	Thr	Ala		
1285							1290					1295				
ggc	acc	atc	ctg	gac	gga	gtg	aac	gtc	ggc	cgt	ggc	tat	ggc	ctg		4036
Gly	Thr	Ile	Leu	Asp	Gly	Val	Asn	Val	Gly	Arg	Gly	Tyr	Gly	Leu		
1300							1305					1310				
gtg	gaa	gga	cac	gac	agg	agg	cag	ttt	gag	atc	acc	agc	gtt	tcc		4081
Val	Glu	Gly	His	Asp	Arg	Arg	Gln	Phe	Glu	Ile	Thr	Ser	Val	Ser		
1315							1320					1325				
gtg	gat	gtc	tgg	cac	atc	ctg	gaa	tcc	gac	tat	agc	agg	ctc	ccc		4126
Val	Asp	Val	Trp	His	Ile	Leu	Glu	Phe	Asp	Tyr	Ser	Arg	Leu	Pro		
1330							1335					1340				

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aaa caa agc atc ggg cag ttc cat gag ggg gat gcc tat gtg gtc	4171
Lys Gln Ser Ile Gly Gln Phe His Glu Gly Asp Ala Tyr Val Val	
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aag tgg aag ttc atg gtg agc acg gca gtg gga agt cgc cag aag	4216
Lys Trp Lys Phe Met Val Ser Thr Ala Val Gly Ser Arg Gln Lys	
1360 1365 1370	
gga gag cac tcg gtg agg gca gcc ggc aaa gag aag tgc gtc tac	4261
Gly Glu His Ser Val Arg Ala Ala Gly Lys Glu Lys Cys Val Tyr	
1375 1380 1385	
ttc ttc tgg caa ggc cggttcc acc gtg agt gag aag ggc acg	4306
Phe Phe Trp Gln Gly Arg His Ser Thr Val Ser Glu Lys Gly Thr	
1390 1395 1400	
tcg gcg ctg atg acg gtg gag ctg gac gag gaa agg ggg gcc cag	4351
Ser Ala Leu Met Thr Val Glu Leu Asp Glu Glu Arg Gly Ala Gln	
1405 1410 1415	
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Val Gln Val Leu Gln Gly Lys Glu Pro Pro Cys Phe Leu Gln Cys	
1420 1425 1430	
ttc cag ggg ggg atg gtg gtg cac tcg ggg agg cgg gaa gag gaa	4441
Phe Gln Gly Gly Met Val Val His Ser Gly Arg Arg Glu Glu Glu	
1435 1440 1445	
gaa gaa aat gtg caa agt gag tgg cgg ctg tac tgc gtg cgt gga	4486
Glu Glu Asn Val Gln Ser Glu Trp Arg Leu Tyr Cys Val Arg Gly	
1450 1455 1460	
gag gtg ccc gtg gaa ggg aat ttg ctg gaa gtg gcc tgt cac tgt	4531
Glu Val Pro Val Glu Gly Asn Leu Leu Glu Val Ala Cys His Cys	
1465 1470 1475	
agc agc ctg agg tcc aga act tcc atg gtg gtg ctt aac gtc aac	4576
Ser Ser Leu Arg Ser Arg Thr Ser Met Val Val Leu Asn Val Asn	
1480 1485 1490	
aag gcc ctc atc tac ctg tgg cac gga tgc aaa gcc cag gcc cac	4621
Lys Ala Leu Ile Tyr Leu Trp His Gly Cys Lys Ala Gln Ala His	
1495 1500 1505	
acg aag gag gtc gga agg acc gct gcg aac aag atc aag gaa caa	4666
Thr Lys Glu Val Gly Arg Thr Ala Ala Asn Lys Ile Lys Glu Gln	
1510 1515 1520	
tgt ccc ctg gaa gca gga ctg cat agt agc agc aaa gtc aca ata	4711
Cys Pro Leu Glu Ala Gly Leu His Ser Ser Ser Lys Val Thr Ile	
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cac gag tgt gat gaa ggc tcc gag cca ctc gga ttc tgg gat gcc	4756
His Glu Cys Asp Glu Gly Ser Glu Pro Leu Gly Phe Trp Asp Ala	
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tta gga agg aga gac agg aaa gcc tac gat tgc atg ctt caa gat	4801
Leu Gly Arg Arg Asp Arg Lys Ala Tyr Asp Cys Met Leu Gln Asp	
1555 1560 1565	
cct gga agt ttt aac ttc gcg ccc cgc ctg ttc atc ctc agc agc	4846
Pro Gly Ser Phe Asn Phe Ala Pro Arg Leu Phe Ile Leu Ser Ser	
1570 1575 1580	

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Ser Ser Gly	Asp Phe Ala Ala Thr	Glu Phe Val Tyr Pro	Ala Arg	
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gcc ccc tct	gtg gtc agt tcc atg	ccc ttc ctg cag gaa	gat ctg	4936
Ala Pro Ser	Val Val Ser Ser Met	Pro Phe Leu Gln Glu	Asp Leu	
1600	1605	1610		
tac agc gcg	ccc cag cca gca ctt	ttc ctt gtt gac aat	cac cac	4981
Tyr Ser Ala	Pro Gln Pro Ala Leu	Phe Leu Val Asp Asn	His His	
1615	1620	1625		
gag gtg tac	ctc tgg caa ggc tgg	tgg ccc atc gag aac	aag atc	5026
Glu Val Tyr	Leu Trp Gln Gly Trp	Trp Pro Ile Glu Asn	Lys Ile	
1630	1635	1640		
act ggt tcc	gcc cgc atc cgc tgg	gcc tcc gac cgg aag	agt gcg	5071
Thr Gly Ser	Ala Arg Ile Arg Trp	Ala Ser Asp Arg Lys	Ser Ala	
1645	1650	1655		
atg gag act	gtg ctc cag tac tgc	aaa gga aaa aat ctc	aag aaa	5116
Met Glu Thr	Val Leu Gln Tyr Cys	Lys Gly Lys Asn Leu	Lys Lys	
1660	1665	1670		
cca gcc ccc	aag tct tac ctt atc	cac gct ggt ctg gag	ccc ctg	5161
Pro Ala Pro	Lys Ser Tyr Leu Ile	His Ala Gly Leu Glu	Pro Leu	
1675	1680	1685		
aca ttc acc	aat atg ttt ccc agc	tgg gag cac aga gag	gac atc	5206
Thr Phe Thr	Asn Met Phe Pro Ser	Trp Glu His Arg Glu	Asp Ile	
1690	1695	1700		
gct gag atc	aca gag atg gac acg	gaa gtt tcc aat cag	atc acc	5251
Ala Glu Ile	Thr Glu Met Asp Thr	Glu Val Ser Asn Gln	Ile Thr	
1705	1710	1715		
ctc gtg gaa	gac gtc tta gcc aag	ctc tgt aaa acc att	tac ccg	5296
Leu Val Glu	Asp Val Leu Ala Lys	Leu Cys Lys Thr Ile	Tyr Pro	
1720	1725	1730		
ctg gcc gac	ctc ctg gcc agg cca	ctc ccg gag ggg gtc	gat cct	5341
Leu Ala Asp	Leu Leu Ala Arg Pro	Leu Pro Glu Gly Val	Asp Pro	
1735	1740	1745		
ctg aag ctt	gag atc tat ctc acc	gac gaa gac ttc gag	ttt gca	5386
Leu Lys Leu	Glu Ile Tyr Leu Thr	Asp Glu Asp Phe Glu	Phe Ala	
1750	1755	1760		
cta gac atg	acg agg gat gaa tac	aac gcc ctg ccc gcc	tgg aag	5431
Leu Asp Met	Thr Arg Asp Glu Tyr	Asn Ala Leu Pro Ala	Trp Lys	
1765	1770	1775		
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Gln Val Asn	Leu Lys Lys Ala Lys	Gly Leu Phe		
1780	1785			
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tttttgact	ggtgttttc acaaagtatt	tttcaatcag agtttcaga	acctgacatt	5597
gttaaagata	ctgcttgcc cgagttgtg	tatttgtaa atgttcaagg	gaactgtttg	5657
gaaaccttctt	tccaccattc a			5678

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<210> 36
<211> 1788
<212> PRT
<213> homo sapiens

<400> 36

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20 25 30

Arg Leu Leu Glu Glu Asp Thr Pro Arg Tyr Met Arg Ala Ser Asp Pro
35 40 45

Ala Ser Pro His Ile Gly Arg Ser Asn Glu Glu Glu Glu Thr Ser Asp
50 55 60

Ser Ser Leu Glu Lys Gln Thr Arg Ser Lys Tyr Cys Thr Glu Thr Ser Asp
65 70 75 80

Gly Val His Gly Asp Ser Pro Tyr Gly Ser Gly Thr Met Asp Thr His
85 90 95

Ser Leu Glu Ser Lys Ala Glu Arg Ile Ala Arg Tyr Lys Ala Glu Arg
100 105 110

Arg Arg Gln Leu Ala Glu Lys Tyr Gly Leu Thr Leu Asp Pro Glu Ala
115 120 125

Asp Ser Glu Tyr Leu Ser Arg Tyr Thr Lys Ser Arg Lys Glu Pro Asp
130 135 140

Ala Val Glu Lys Arg Gly Gly Lys Ser Asp Lys Gln Glu Glu Ser Ser
145 150 155 160

Arg Asp Ala Ser Ser Leu Tyr Pro Gly Thr Glu Thr Met Gly Leu Arg
165 170 175

Thr Cys Ala Gly Glu Ser Lys Asp Tyr Ala Leu His Val Gly Asp Gly
180 185 190

Ser Ser Asp Pro Glu Val Leu Leu Asn Ile Glu Asn Gln Arg Arg Gly
195 200 205

Gln Glu Leu Ser Ala Thr Arg Gln Ala His Asp Leu Ser Pro Ala Ala
210 215 220

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Glu Ser Ser Ser Thr Phe Ser Phe Ser Gly Arg Asp Ser Ser Phe Thr
225 230 235 240

Glu Val Pro Arg Ser Pro Lys His Ala His Ser Ser Ser Leu Gln Gln
245 250 255

Ala Ala Ser Arg Ser Pro Ser Phe Gly Asp Pro Gln Leu Ser Pro Glu
260 265 270

Ala Arg Pro Arg Cys Thr Ser His Ser Glu Thr Pro Thr Val Asp Asp
275 280 285

Glu Glu Lys Val Asp Glu Arg Ala Lys Leu Ser Val Ala Ala Lys Arg
290 295 300

Leu Leu Phe Arg Glu Met Glu Lys Ser Phe Asp Glu Gln Asn Val Pro
305 310 315 320

Lys Arg Arg Ser Arg Asn Thr Ala Val Glu Gln Arg Leu Arg Arg Leu
325 330 335

Gln Asp Arg Ser Leu Thr Gln Pro Ile Thr Thr Glu Glu Val Val Ile
340 345 350

Ala Ala Thr Leu Gln Ala Ser Ala His Gln Lys Ala Leu Ala Lys Asp
355 360 365

Gln Thr Asn Glu Gly Lys Glu Leu Ala Glu Gln Gly Glu Pro Asp Ser
370 375 380

Ser Thr Leu Ser Leu Ala Glu Lys Leu Ala Leu Phe Asn Lys Leu Ser
385 390 395 400

Gln Pro Val Ser Lys Ala Ile Ser Thr Arg Asn Arg Ile Asp Thr Arg
405 410 415

Gln Arg Arg Met Asn Ala Arg Tyr Gln Thr Gln Pro Val Thr Leu Gly
420 425 430

Glu Val Glu Gln Val Gln Ser Gly Lys Leu Ile Pro Phe Ser Pro Ala
435 440 445

Val Asn Thr Ser Val Ser Thr Val Ala Ser Thr Val Ala Pro Met Tyr
450 455 460

Ala Gly Asp Leu Arg Thr Lys Pro Pro Leu Asp His Asn Ala Ser Ala
465 470 475 480

61835-1.ST25.txt

Thr Asp Tyr Lys Phe Ser Ser Ser Ile Glu Asn Ser Asp Ser Pro Val
485 490 495

Arg Ser Ile Leu Lys Ser Gln Ala Trp Gln Pro Leu Val Glu Gly Ser
500 505 510

Glu Asn Lys Gly Met Leu Arg Glu Tyr Gly Glu Thr Glu Ser Lys Arg
515 520 525

Ala Leu Thr Gly Arg Asp Ser Gly Met Glu Lys Tyr Gly Ser Phe Glu
530 535 540

Glu Ala Glu Ala Ser Tyr Pro Ile Leu Asn Arg Ala Arg Glu Gly Asp
545 550 555 560

Ser His Lys Glu Ser Lys Tyr Ala Val Pro Arg Arg Gly Ser Leu Glu
565 570 575

Arg Ala Asn Pro Pro Ile Thr His Leu Gly Asp Glu Pro Lys Glu Phe
580 585 590

Ser Met Ala Lys Met Asn Ala Gln Gly Asn Leu Asp Leu Arg Asp Arg
595 600 605

Leu Pro Phe Glu Glu Lys Val Glu Val Glu Asn Val Met Lys Arg Lys
610 615 620

Phe Ser Leu Arg Ala Ala Glu Phe Gly Glu Pro Thr Ser Glu Gln Thr
625 630 635 640

Gly Thr Ala Ala Gly Lys Thr Ile Ala Gln Thr Thr Ala Pro Val Ser
645 650 655

Trp Lys Pro Gln Asp Ser Ser Glu Gln Pro Gln Glu Lys Leu Cys Lys
660 665 670

Asn Pro Cys Ala Met Phe Ala Ala Gly Glu Ile Lys Thr Pro Thr Gly
675 680 685

Glu Gly Leu Leu Asp Ser Pro Ser Lys Thr Met Ser Ile Lys Glu Arg
690 695 700

Leu Ala Leu Leu Lys Lys Ser Gly Glu Glu Asp Trp Arg Asn Arg Leu
705 710 715 720

Ser Arg Arg Gln Glu Gly Gly Lys Ala Pro Ala Ser Ser Leu His Thr
725 730 735

61835-1.ST25.txt

Gln Glu Ala Gly Arg Ser Leu Ile Lys Lys Arg Val Thr Glu Ser Arg
740 745 750

Glu Ser Gln Met Thr Ile Glu Glu Arg Lys Gln Leu Ile Thr Val Arg
755 760 765

Glu Glu Ala Trp Lys Thr Arg Gly Arg Gly Ala Ala Asn Asp Ser Thr
770 775 780

Gln Phe Thr Val Ala Gly Arg Met Val Lys Lys Gly Leu Ala Ser Pro
785 790 795 800

Thr Ala Ile Thr Pro Val Ala Ser Ala Ile Cys Gly Lys Thr Arg Gly
805 810 815

Thr Thr Pro Val Ser Lys Pro Leu Glu Asp Ile Glu Ala Arg Pro Asp
820 825 830

Met Gln Leu Glu Ser Asp Leu Lys Leu Asp Arg Leu Glu Thr Phe Leu
835 840 845

Arg Arg Leu Asn Asn Lys Val Gly Gly Met His Glu Thr Val Leu Thr
850 855 860

Val Thr Gly Lys Ser Val Lys Glu Val Met Lys Pro Asp Asp Asp Glu
865 870 875 880

Thr Phe Ala Lys Phe Tyr Arg Ser Val Asp Tyr Asn Met Pro Arg Ser
885 890 895

Pro Val Glu Met Asp Glu Asp Phe Asp Val Ile Phe Asp Pro Tyr Ala
900 905 910

Pro Lys Leu Thr Ser Ser Val Ala Glu His Lys Arg Ala Val Arg Pro
915 920 925

Lys Arg Arg Val Gln Ala Ser Lys Asn Pro Leu Lys Met Leu Ala Ala
930 935 940

Arg Glu Asp Leu Leu Gln Glu Tyr Thr Glu Gln Arg Leu Asn Val Ala
945 950 955 960

Phe Met Glu Ser Lys Arg Met Lys Val Glu Lys Met Ser Ser Asn Ser
965 970 975

Asn Phe Ser Glu Val Thr Leu Ala Gly Leu Ala Ser Lys Glu Asn Phe
980 985 990

61835-1.ST25.txt

Ser Asn Val Ser Leu Arg Ser Val Asn Leu Thr Glu Gln Asn Ser Asn
995 1000 1005

Asn Ser Ala Val Pro Tyr Lys Arg Leu Met Leu Leu Gln Ile Lys
1010 1015 1020

Gly Arg Arg His Val Gln Thr Arg Leu Val Glu Pro Arg Ala Ser
1025 1030 1035

Ala Leu Asn Ser Gly Asp Cys Phe Leu Leu Leu Ser Pro His Cys
1040 1045 1050

Cys Phe Leu Trp Val Gly Glu Phe Ala Asn Val Ile Glu Lys Ala
1055 1060 1065

Lys Ala Ser Glu Leu Ala Thr Leu Ile Gln Thr Lys Arg Glu Leu
1070 1075 1080

Gly Cys Arg Ala Thr Tyr Ile Gln Thr Ile Glu Glu Gly Ile Asn
1085 1090 1095

Thr His Thr His Ala Ala Lys Asp Phe Trp Lys Leu Leu Gly Gly
1100 1105 1110

Gln Thr Ser Tyr Gln Ser Ala Gly Asp Pro Lys Glu Asp Glu Leu
1115 1120 1125

Tyr Glu Ala Ala Ile Ile Glu Thr Asn Cys Ile Tyr Arg Leu Met
1130 1135 1140

Asp Asp Lys Leu Val Pro Asp Asp Asp Tyr Trp Gly Lys Ile Pro
1145 1150 1155

Lys Cys Ser Leu Leu Gln Pro Lys Glu Val Leu Val Phe Asp Phe
1160 1165 1170

Gly Ser Glu Val Tyr Val Trp His Gly Lys Glu Val Thr Leu Ala
1175 1180 1185

Gln Arg Lys Ile Ala Phe Gln Leu Ala Lys His Leu Trp Asn Gly
1190 1195 1200

Thr Phe Asp Tyr Glu Asn Cys Asp Ile Asn Pro Leu Asp Pro Gly
1205 1210 1215

Glu Cys Asn Pro Leu Ile Pro Arg Lys Gly Gln Gly Arg Pro Asp
1220 1225 1230

61835-1.ST25.txt

Trp Ala Ile Phe Gly Arg Leu Thr Glu His Asn Glu Thr Ile Leu
1235 1240 1245

Phe Lys Glu Lys Phe Leu Asp Trp Thr Glu Leu Lys Arg Ser Asn
1250 1255 1260

Glu Lys Asn Pro Gly Glu Leu Ala Gln His Lys Glu Asp Pro Arg
1265 1270 1275

Thr Asp Val Lys Ala Tyr Asp Val Thr Arg Met Val Ser Met Pro
1280 1285 1290

Gln Thr Thr Ala Gly Thr Ile Leu Asp Gly Val Asn Val Gly Arg
1295 1300 1305

Gly Tyr Gly Leu Val Glu Gly His Asp Arg Arg Gln Phe Glu Ile
1310 1315 1320

Thr Ser Val Ser Val Asp Val Trp His Ile Leu Glu Phe Asp Tyr
1325 1330 1335

Ser Arg Leu Pro Lys Gln Ser Ile Gly Gln Phe His Glu Gly Asp
1340 1345 1350

Ala Tyr Val Val Lys Trp Lys Phe Met Val Ser Thr Ala Val Gly
1355 1360 1365

Ser Arg Gln Lys Gly Glu His Ser Val Arg Ala Ala Gly Lys Glu
1370 1375 1380

Lys Cys Val Tyr Phe Phe Trp Gln Gly Arg His Ser Thr Val Ser
1385 1390 1395

Glu Lys Gly Thr Ser Ala Leu Met Thr Val Glu Leu Asp Glu Glu
1400 1405 1410

Arg Gly Ala Gln Val Gln Val Leu Gln Gly Lys Glu Pro Pro Cys
1415 1420 1425

Phe Leu Gln Cys Phe Gln Gly Gly Met Val Val His Ser Gly Arg
1430 1435 1440

Arg Glu Glu Glu Glu Asn Val Gln Ser Glu Trp Arg Leu Tyr
1445 1450 1455

Cys Val Arg Gly Glu Val Pro Val Glu Gly Asn Leu Leu Glu Val
1460 1465 1470

61835-1.ST25.txt

Ala Cys His Cys Ser Ser Leu Arg Ser Arg Thr Ser Met Val Val
1475 1480 1485

Leu Asn Val Asn Lys Ala Leu Ile Tyr Leu Trp His Gly Cys Lys
1490 1495 1500

Ala Gln Ala His Thr Lys Glu Val Gly Arg Thr Ala Ala Asn Lys
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Ile Lys Glu Gln Cys Pro Leu Glu Ala Gly Leu His Ser Ser Ser
1520 1525 1530

Lys Val Thr Ile His Glu Cys Asp Glu Gly Ser Glu Pro Leu Gly
1535 1540 1545

Phe Trp Asp Ala Leu Gly Arg Arg Asp Arg Lys Ala Tyr Asp Cys
1550 1555 1560

Met Leu Gln Asp Pro Gly Ser Phe Asn Phe Ala Pro Arg Leu Phe
1565 1570 1575

Ile Leu Ser Ser Ser Ser Gly Asp Phe Ala Ala Thr Glu Phe Val
1580 1585 1590

Tyr Pro Ala Arg Ala Pro Ser Val Val Ser Ser Met Pro Phe Leu
1595 1600 1605

Gln Glu Asp Leu Tyr Ser Ala Pro Gln Pro Ala Leu Phe Leu Val
1610 1615 1620

Asp Asn His His Glu Val Tyr Leu Trp Gln Gly Trp Trp Pro Ile
1625 1630 1635

Glu Asn Lys Ile Thr Gly Ser Ala Arg Ile Arg Trp Ala Ser Asp
1640 1645 1650

Arg Lys Ser Ala Met Glu Thr Val Leu Gln Tyr Cys Lys Gly Lys
1655 1660 1665

Asn Leu Lys Lys Pro Ala Pro Lys Ser Tyr Leu Ile His Ala Gly
1670 1675 1680

Leu Glu Pro Leu Thr Phe Thr Asn Met Phe Pro Ser Trp Glu His
1685 1690 1695

Arg Glu Asp Ile Ala Glu Ile Thr Glu Met Asp Thr Glu Val Ser
1700 1705 1710

61835-1.ST25.txt

Asn Gln Ile Thr Leu Val Glu Asp Val Leu Ala Lys Leu Cys Lys
 1715 1720 1725

Thr Ile Tyr Pro Leu Ala Asp Leu Leu Ala Arg Pro Leu Pro Glu
 1730 1735 1740

Gly Val Asp Pro Leu Lys Leu Glu Ile Tyr Leu Thr Asp Glu Asp
 1745 1750 1755

Phe Glu Phe Ala Leu Asp Met Thr Arg Asp Glu Tyr Asn Ala Leu
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Pro Ala Trp Lys Gln Val Asn Leu Lys Lys Ala Lys Gly Leu Phe
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aaaccaacct taatggcttg ttgatggata agacggcatc aacttgtaca tttgccatt	180
gagagaactc ccaggagcaa ctgtcctctc tccagttcac acgttatctca cactacctgg gcagtttaac	240
cagatttcag gatattcaca ttcatgcatt acgtatctca cactacctgg gcagtttaac	300
tcatactttg tacagatgca gagagtacag tagttgtatt tatatatata tatatgtaga	360
gatctcttta aatatatata gctatatata atatatatgt ttatatgttt acacctatta	420
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cctatgatct gagttccaaa gttnggtca actgtgagac ggctggaaaa gatctatttg	540
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tcgg	604

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61835-1.ST25.txt

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ggcgacccc	atg gca tcc ccc aga acc gta act att	gtg gcc ctc tca gtg	Met Ala Ser Pro Arg Thr Val Thr Ile Val Ala Leu Ser Val	171		
1	5	10				
gcc ctg gga ctc ttc ttt gtt ttc atg ggg act atc aag ctg acc ccc						219
Ala Leu Gly Leu Phe Phe Val Phe Met Gly Thr Ile Lys Leu Thr Pro						
15	20	25	30			
agg ctc agc aag gat gcc tac agt gag atg aaa cgt gct tac aag agc						267
Arg Leu Ser Lys Asp Ala Tyr Ser Glu Met Lys Arg Ala Tyr Lys Ser						
35	40	45				
tat gtt cga gcc ctc cct ctg ctg aag aaa atg ggg atc aat tcc att						315
Tyr Val Arg Ala Leu Pro Leu Leu Lys Met Gly Ile Asn Ser Ile						
50	55	60				
ctc ctc cga aaa agc att ggt gcc ctt gaa gtg gcc tgt ggc atc gtc						363
Leu Leu Arg Lys Ser Ile Gly Ala Leu Glu Val Ala Cys Gly Ile Val						
65	70	75				
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Met Thr Leu Val Pro Gly Arg Pro Lys Asp Val Ala Asn Phe Phe Leu						
80	85	90				
ctg ttg ctg gtg ttg gct gtg ctc ttc cac cag ctg gtc ggt gat						459
Leu Leu Leu Val Leu Ala Val Leu Phe Phe His Gln Leu Val Gly Asp						
95	100	105	110			
cct ctc aaa cgc tac gcc cat gct ctg gtg ttt gga atc ctg ctc act						507
Pro Leu Lys Arg Tyr Ala His Ala Leu Val Phe Gly Ile Leu Leu Thr						
115	120	125				
tgc cgc ctg ctg att gct cgc aag ccc gaa gac cgg tct tct gag aag						555
Cys Arg Leu Leu Ile Ala Arg Lys Pro Glu Asp Arg Ser Ser Glu Lys						
130	135	140				
aag cct ttg cca ggg aat gct gag gag caa ccc tcc tta tat gag aag						603
Lys Pro Leu Pro Gly Asn Ala Glu Glu Gln Pro Ser Leu Tyr Glu Lys						
145	150	155				
gcc cct cag ggc aaa gtg aag gtg tca tag aaaagtggaa gtgcaaagag						653
Ala Pro Gln Gly Lys Val Lys Val Ser						
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61835-1.ST25.txt

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35 40 45

Arg Ala Leu Pro Leu Leu Lys Lys Met Gly Ile Asn Ser Ile Leu Leu
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Arg Lys Ser Ile Gly Ala Leu Glu Val Ala Cys Gly Ile Val Met Thr
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61835-1.ST25.txt

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Lys Arg Tyr Ala His Ala Leu Val Phe Gly Ile Leu Leu Thr Cys Arg
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1 5 10

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Gly Gly Leu Met Ala Arg Pro Glu Tyr Arg Glu Trp Asn Pro Glu Leu
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atc aag ccc aag aag ctg ctg aac ccc gtg aag gcc tct cgg agt cac 206
Ile Lys Pro Lys Lys Leu Leu Asn Pro Val Lys Ala Ser Arg Ser His
30 35 40

cag gag ctc cac cgg gag ctg ctc atg aac cac aga agg ggc ctt ggt 254
Gln Glu Leu His Arg Glu Leu Leu Met Asn His Arg Arg Gly Leu Gly
45 50 55 60

gtg gac agc aag cca gag ctg cag cgt gtc cta gag cac cgc cgg cgg 302
Val Asp Ser Lys Pro Glu Leu Gln Arg Val Leu Glu His Arg Arg Arg
65 70 75

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Gln Cys Pro Phe Glu Gln Glu Leu Leu Arg Arg Gln Gln Arg Leu Asn
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Ile	Lys	Val	Arg	Glu	Asn	Leu	Arg	Arg	Ile	Ala	Thr	Leu	Thr	Ser	Glu				
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Glu	Arg	Glu	Leu																
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gg	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	cc	1569
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61835-1.ST25.txt

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 65 70 75 80

Lys Lys Lys Lys Glu Glu Leu Glu Ala Lys Arg Leu Gln Cys Pro Phe
 85 90 95

Glu Gln Glu Leu Leu Arg Arg Gln Gln Arg Leu Asn Gln Leu Glu Lys
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Arg	Lys	Lys	Val	Lys	Ser	Gly	Asn	Ala	Asn	Ser	Ser	Ser	Ser	Ala	Ala	
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Val	Ser	Lys	Pro	His	Ala	Lys	Leu	Ile	Leu	Ala	Gly	Gly	Gly	Gly	Gly	
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<400> 44

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35 40 45

Pro Ser Trp Cys Lys Thr Pro Ser Gly His Ile Lys Arg Pro Met Asn
50 55 60

Ala Phe Met Val Trp Ser Gln Ile Glu Arg Arg Lys Ile Met Glu Gln
65 70 75 80

Ser Pro Asp Met His Asn Ala Glu Ile Ser Lys Arg Leu Gly Lys Arg
85 90 95

Trp Lys Leu Leu Lys Asp Ser Asp Lys Ile Pro Phe Ile Arg Glu Ala
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Glu Arg Leu Arg Leu Lys His Met Ala Asp Tyr Pro Asp Tyr Lys Tyr
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130 135 140

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145 150 155 160

Ser Gly Gly Gly His Gly Gly Gly Gly Gly Ser Ser Asn
165 170 175

Ala Gly Gly Gly Gly Ala Ser Gly Gly Ala Asn Ser Lys
180 185 190

Pro Ala Gln Lys Lys Ser Cys Gly Ser Lys Val Ala Gly Gly Ala Gly
195 200 205

Gly Gly Val Ser Lys Pro His Ala Lys Leu Ile Leu Ala Gly Gly Gly
210 215 220

Gly Gly Gly Lys Ala Ala Ala Ala Ala Ser Phe Ala Ala Glu
225 230 235 240

Gln Ala Gly Ala Ala Ala Leu Leu Pro Leu Gly Ala Ala Ala Asp His
245 250 255

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260 265 270

Ser Ala Ala Ser Ala Ser Ala Ala Leu Ala Ala Pro Gly Lys His Leu
275 280 285

Ala Glu Lys Lys Val Lys Arg Val Tyr Leu Phe Gly Gly Leu Gly Thr
290 295 300

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Pro Leu Gly Leu Tyr Glu Glu Glu Gly Ala Gly Cys Ser Pro Asp Ala
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340 345 350

Arg Ser Pro Ala Asp His Arg Gly Tyr Ala Ser Leu Arg Ala Ala Ser
Page 50

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His Ser Ser Ser Ser Ser Ser Gly Ser Ser Ser Ser Asp Asp Glu
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 405 410 415

Met Ser Leu Gly Ser Phe Ser Ser Ser Ala Leu Asp Arg Asp Leu
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Asp Phe Asn Phe Glu Pro Gly Ser Gly Ser His Phe Glu Phe Pro Asp
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Val Thr Ala Glu Glu Ala Ala Gly Ala Ser Pro Ala Lys Ala Asn Gly
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Gln Glu Asn Gly His Val Lys Ser Asn Gly Asp Leu Ser Pro Lys Gly
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Glu Gly Glu Ser Pro Pro Val Asn Gly Thr Asp Glu Ala Ala Gly Ala
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Thr Gly Asp Ala Ile Glu Pro Ala Pro Pro Ser Gln Gly Ala Glu Ala
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His Val Lys Ser Asn Gly Asp Leu Ser Pro Lys Gly Glu Gly Glu Ser
35 40 45

Pro Pro Val Asn Gly Thr Asp Glu Ala Ala Gly Ala Thr Gly Asp Ala
50 55 60

Ile Glu Pro Ala Pro Pro Ser Gln Gly Ala Glu Ala Lys Gly Glu Val
65 70 75 80

Pro Pro Lys Glu Thr Pro Lys Lys Lys Lys Phe Ser Phe Lys Lys
85 90 95

Pro Phe Lys Leu Ser Gly Leu Ser Phe Lys Arg Asn Arg Lys Glu Gly
100 105 110

Gly Gly Asp Ser Ser Ala Ser Ser Pro Thr Glu Glu Gln Glu Gln
115 120 125

Gly Glu Ile Gly Ala Cys Ser Asp Glu Gly Thr Ala Gln Glu Gly Lys
130 135 140

Ala Ala Ala Thr Pro Glu Ser Gln Glu Pro Gln Ala Lys Gly Ala Glu
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57

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gat gaa tac atg aag gag cta gga gtg gga ata gct ttg cga aaa atg	153
Asp Glu Tyr Met Lys Glu Leu Gly Val Gly Ile Ala Leu Arg Lys Met	
20 25 30 35	
ggc gca atg gcc aag cca gat tgt atc atc act tgt gat ggt aaa aac	201
Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp Gly Lys Asn	
40 45 50	
ctc acc ata aaa act gag agc act ttg aaa aca aca cag ttt tct tgt	249
Leu Thr Ile Lys Thr Glu Ser Thr Leu Lys Thr Thr Gln Phe Ser Cys	
55 60 65	
acc ctg gga gag aag ttt gaa gaa acc aca gct gat ggc aga aaa act	297
Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly Arg Lys Thr	
70 75 80	
cag act gtc tgc aac ttt aca gat ggt gca ttg gtt cag cat cag gag	345
Gln Thr Val Cys Asn Phe Thr Asp Gly Ala Leu Val Gln His Gln Glu	
85 90 95	
tgg gat ggg aag gaa agc aca ata aca aga aaa ttg aaa gat ggg aaa	393
Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys Asp Gly Lys	
100 105 110 115	
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Leu Val Val Glu Cys Val Met Asn Asn Val Thr Cys Thr Arg Ile Tyr	
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Glu Lys Val Glu	
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Arg Lys Met Gly Ala Met Ala Lys Pro Asp Cys Ile Ile Thr Cys Asp	
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61835-1.ST25.txt
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Phe Ser Cys Thr Leu Gly Glu Lys Phe Glu Glu Thr Thr Ala Asp Gly
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His Gln Glu Trp Asp Gly Lys Glu Ser Thr Ile Thr Arg Lys Leu Lys
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 Met Ser Ala Gly Gly Ala Ser Val Pro Pro Pro
 1 5 10

ccg aac ccc gcc gtg tcc ttc ccg ccg ccc ccg gtc acc ctg ccc gcc 160
 Pro Asn Pro Ala Val Ser Phe Pro Pro Pro Arg Val Thr Leu Pro Ala
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ggc ccc gac atc ctg ccg acc tac tcg ggc gcc ttc gtc tgc ctg gag 208
 Gly Pro Asp Ile Leu Arg Thr Tyr Ser Gly Ala Phe Val Cys Leu Glu
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 Ile Leu Phe Gly Gly Leu Val Trp Ile Leu Val Ala Ser Ser Asn Val
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cct cta cct cta cta caa gga tgg gtc atg ttt gtg tcc gtg aca gcg 304
 Pro Leu Pro Leu Leu Gln Gly Trp Val Met Phe Val Ser Val Thr Ala
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 80 85 90

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61835-1.ST25.txt

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aca tcc ctg cat gat ttg cat tgc aat aca acc ata acc ggg cag cca	496
Thr Ser Leu His Asp Leu His Cys Asn Thr Thr Ile Thr Gly Gln Pro	
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ctc ctg agt gat aac cag tat aac ata aac gta gca gcc tca att ttt	544
Leu Leu Ser Asp Asn Gln Tyr Asn Ile Asn Val Ala Ala Ser Ile Phe	
140 145 150 155	
gcc ttt atg acg aca gct tgt tat ggt tgc agt ttg ggt ctg gct tta	592
Ala Phe Met Thr Thr Ala Cys Tyr Gly Cys Ser Leu Gly Leu Ala Leu	
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Arg Arg Trp Arg Pro	
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Arg Thr Tyr Ser Gly Ala Phe Val Cys Leu Glu Ile Leu Phe Gly Gly
35 40 45

Leu Val Trp Ile Leu Val Ala Ser Ser Asn Val Pro Leu Pro Leu Leu
50 55 60

Gln Gly Trp Val Met Phe Val Ser Val Thr Ala Phe Phe Phe Ser Leu
65 70 75 80

Leu Phe Leu Gly Met Phe Leu Ser Gly Met Val Ala Gln Ile Asp Ala
85 90 95

Asn Trp Asn Phe Leu Asp Phe Ala Tyr His Phe Thr Val Phe Val Phe
100 105 110

61835-1.ST25.txt

Tyr Phe Gly Ala Phe Leu Leu Glu Ala Ala Ala Thr Ser Leu His Asp
 115 120 . 125

Leu His Cys Asn Thr Thr Ile Thr Gly Gln Pro Leu Leu Ser Asp Asn
130 135 140

Gln Tyr Asn Ile Asn Val Ala Ala Ser Ile Phe Ala Phe Met Thr Thr
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Ala Cys Tyr Gly Cys Ser Leu Gly Leu Ala Leu Arg Arg Trp Arg Pro
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gaacccaaggg caactaaagc cgtcaggttc tgaacagctg gtagatgggc tggcttactg      180
aaggac atg att cag act gtc ccg gac cca gca gct cat atc aag gaa      228
    Met Ile Gln Thr Val Pro Asp Pro Ala Ala His Ile Lys Glu
    1          5             10

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Ala Leu Ser Val Val Ser Glu Asp Gln Ser Leu Phe Glu Cys Ala Tyr
15          20          25          30

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Gly Thr Pro His Leu Ala Lys Thr Glu Met Thr Ala Ser Ser Ser Ser
35          40          45

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gac tat gga cag act tcc aag atg agc cca cgc gtc cct cag cag gat      372
Asp Tyr Gly Gln Thr Ser Lys Met Ser Pro Arg Val Pro Gln Gln Asp
      50          55          60

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tgg ctg tct caa ccc cca gcc agg gtc acc atc aaa atg gaa tgt aac 420
Trp Leu Ser Gln Pro Pro Ala Arg Val Thr Ile Lys Met Glu Cys Asn
65 70 75

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cct agc cag gtg aat ggc tca agg aac tct cct gat gaa tgc agt gtg      468
Pro Ser Gln Val Asn Gly Ser Arg Asn Ser Pro Asp Glu Cys Ser Val
 80          85          90

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gcc aaa ggc ggg aag atg gtg ggc agc cca gac acc gtt ggg atg aac      516
Ala Lys Gly Gly Lys Met Val Gly Ser Pro Asp Thr Val Gly Met Asn
95          100          105          110

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tac ggc agc tac atg gag gag aag cac atg cca ccc cca aac atg acc 564
Page 58

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Tyr	Gly	Ser	Tyr	Met	Glu	Glu	Lys	His	Met	Pro	Pro	Pro	Asn	Met	Thr
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acg	aac	gag	cgc	aga	gtt	atc	gtg	cca	gca	gat	cct	acg	cta	tgg	agt
Thr	Asn	Glu	Arg	Arg	Val	Ile	Val	Pro	Ala	Asp	Pro	Thr	Leu	Trp	Ser
130								135					140		
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Thr	Asp	His	Val	Arg	Gln	Trp	Leu	Glu	Trp	Ala	Val	Lys	Glu	Tyr	Gly
145								150				155			
ctt	cca	gac	gtc	aac	atc	ttg	tta	ttc	cag	aac	atc	gat	ggg	aag	gaa
Leu	Pro	Asp	Val	Asn	Ile	Leu	Leu	Phe	Gln	Asn	Ile	Asp	Gly	Lys	Glu
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Leu	Cys	Lys	Met	Thr	Lys	Asp	Asp	Phe	Gln	Arg	Leu	Thr	Pro	Ser	Tyr
175								180			185		190		
aac	gcc	gac	atc	ctt	ctc	tca	cat	ctc	cac	tac	ctc	aga	gag	act	cct
Asn	Ala	Asp	Ile	Leu	Leu	Ser	His	Leu	His	Tyr	Leu	Arg	Glu	Thr	Pro
195								200				205			
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Leu	Pro	His	Leu	Thr	Ser	Asp	Asp	Val	Asp	Lys	Ala	Leu	Gln	Asn	Ser
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Pro	Arg	Leu	Met	His	Ala	Arg	Asn	Thr	Asp	Leu	Pro	Tyr	Glu	Pro	Pro
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Arg	Arg	Ser	Ala	Trp	Thr	Gly	His	Gly	His	Pro	Thr	Pro	Gln	Ser	Lys
240								245			250				
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Ala	Ala	Gln	Pro	Ser	Pro	Ser	Thr	Val	Pro	Lys	Thr	Glu	Asp	Gln	Arg
255								260			265		270		
cct	cag	tta	gat	cct	tat	cag	att	ctt	gga	cca	aca	agt	agc	cgc	ctt
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Asn	Gly	Glu	Phe	Lys	Met	Thr	Asp	Pro	Asp	Glu	Val	Ala	Arg	Arg	Trp
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Ala	Leu	Arg	Tyr	Tyr	Tyr	Asp	Lys	Asn	Ile	Met	Thr	Lys	Val	His	Gly
355								360			365				
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Gln Pro His Pro Pro Glu Ser Ser Leu Tyr Lys Tyr Pro Ser Asp Leu			
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61835-1.ST25.txt

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Ser	Val	Val	Ser	Glu	Asp	Gln	Ser	Leu	Phe	Glu	Cys	Ala	Tyr	Gly	Thr
								20	25			30			

Pro	His	Leu	Ala	Lys	Thr	Glu	Met	Thr	Ala	Ser	Ser	Ser	Ser	Asp	Tyr
							35	40				45			

Gly	Gln	Thr	Ser	Lys	Met	Ser	Pro	Arg	Val	Pro	Gln	Gln	Asp	Trp	Leu
					50	55					60				

Ser	Gln	Pro	Pro	Ala	Arg	Val	Thr	Ile	Lys	Met	Glu	Cys	Asn	Pro	Ser
					65	70			75				80		

Gln	Val	Asn	Gly	Ser	Arg	Asn	Ser	Pro	Asp	Glu	Cys	Ser	Val	Ala	Lys
					85			90				95			

Gly	Gly	Lys	Met	Val	Gly	Ser	Pro	Asp	Thr	Val	Gly	Met	Asn	Tyr	Gly
					100			105			110				

Ser	Tyr	Met	Glu	Glu	Lys	His	Met	Pro	Pro	Pro	Asn	Met	Thr	Thr	Asn
						115		120				125			

Glu	Arg	Arg	Val	Ile	Val	Pro	Ala	Asp	Pro	Thr	Leu	Trp	Ser	Thr	Asp
						130	135				140				

His	Val	Arg	Gln	Trp	Leu	Glu	Trp	Ala	Val	Lys	Glu	Tyr	Gly	Leu	Pro
					145		150			155				160	

Asp	Val	Asn	Ile	Leu	Leu	Phe	Gln	Asn	Ile	Asp	Gly	Lys	Glu	Leu	Cys
						165			170				175		

Lys Met Thr Lys Asp Asp Phe Gln Arg Leu Thr Pro Ser Tyr Asn Ala
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180

185

190

Asp Ile Leu Leu Ser His Leu His Tyr Leu Arg Glu Thr Pro Leu Pro
195 200 205

.
His Leu Thr Ser Asp Asp Val Asp Lys Ala Leu Gln Asn Ser Pro Arg
210 215 220

Leu Met His Ala Arg Asn Thr Asp Leu Pro Tyr Glu Pro Pro Arg Arg
225 230 235 240

Ser Ala Trp Thr Gly His Gly His Pro Thr Pro Gln Ser Lys Ala Ala
245 250 255

Gln Pro Ser Pro Ser Thr Val Pro Lys Thr Glu Asp Gln Arg Pro Gln
260 265 270

Leu Asp Pro Tyr Gln Ile Leu Gly Pro Thr Ser Ser Arg Leu Ala Asn
275 280 285

Pro Gly Ser Gly Gln Ile Gln Leu Trp Gln Phe Leu Leu Glu Leu Leu
290 295 300

Ser Asp Ser Ser Asn Ser Ser Cys Ile Thr Trp Glu Gly Thr Asn Gly
305 310 315 320

Glu Phe Lys Met Thr Asp Pro Asp Glu Val Ala Arg Arg Trp Gly Glu
325 330 335

Arg Lys Ser Lys Pro Asn Met Asn Tyr Asp Lys Leu Ser Arg Ala Leu
340 345 350

Arg Tyr Tyr Tyr Asp Lys Asn Ile Met Thr Lys Val His Gly Lys Arg
355 360 365

Tyr Ala Tyr Lys Phe Asp Phe His Gly Ile Ala Gln Ala Leu Gln Pro
370 375 380

His Pro Pro Glu Ser Ser Leu Tyr Lys Tyr Pro Ser Asp Leu Pro Tyr
385 390 395 400

Met Gly Ser Tyr His Ala His Pro Gln Lys Met Asn Phe Val Ala Pro
405 410 415

His Pro Pro Ala Leu Pro Val Thr Ser Ser Ser Phe Phe Ala Ala Pro
420 425 430

Asn Pro Tyr Trp Asn Ser Pro Thr Gly Gly Ile Tyr Pro Asn Thr Arg
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435 61835-1.ST25.txt 445
440 445

Leu Pro Thr Ser His Met Pro Ser His Leu Gly Thr Tyr Tyr
450 455 460